PTO/SB/68 (11-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REQUEST FOR ACCESS OF ABANDONED APPLICATION UNDER 37 CFR 1.14(a)

RECEIVED
MAY 0 1 2001
File Information Unit

In re Application of	
Application Number: 07/310,252	Filed: 2/13/89
Group Art Unit:	Examiner:

Paper No. ~~#38~~ #40

Assistant Commissioner for Patents
Washington, DC 20231

I hereby request access under 37 CFR 1.14(a)(3)(iv) to the application file record of the above-identified ABANDONED application, which is: (CHECK ONE)

✓ (A) referred to in United States Patent Number 6,180,370, column _____.

___ (B) referred to in an application that is open to public inspection as set forth in 37 CFR 1.11, i.e., Application No. _____, filed _____, on page _____ of paper number _____.

___ (C) an application that claims the benefit of the filing date of an application that is open to public inspection, i.e., Application No. _____, filed _____, or

___ (D) an application in which the applicant has filed an authorization to lay open the complete application to the public.

Please direct any correspondence concerning this request to the following address:

_____

_____

_____

Gary Wasserman
Signature

5/1/01
Date

GARY WASSERMAN
Typed or printed name

FOR PTO USE ONLY
Approved by: _____ (Initials)
Unit: _____

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

US006180370B1

(12) **United States Patent**
Queen et al.

(10) **Patent No.: US 6,180,370 B1**
(45) **Date of Patent: *Jan. 30, 2001**

(54) **HUMANIZED IMMUNOGLOBULINS AND METHODS OF MAKING THE SAME**

(75) Inventors: **Cary L. Queen**, Los Altos; **Harold E. Selick**, Belmont, both of CA (US)

(73) Assignee: **Protein Design Labs, Inc.**, Fremont, CA (US)

(*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **08/484,537**

(22) Filed: **Jun. 7, 1995**

Related U.S. Application Data

(63) Continuation-in-part of application No. 07/634,278, filed on Dec. 19, 1990, now Pat. No. 5,530,101, which is a continuation-in-part of application No. 07/590,274, filed on Sep. 28, 1990, now abandoned, which is a continuation-in-part of application No. 07/310,252, filed on Feb. 13, 1989, now abandoned, which is a continuation-in-part of application No. 07/290,975, filed on Dec. 28, 1988, now abandoned.

(51) **Int. Cl.**[7] **A61K 39/395**
(52) **U.S. Cl.** **435/69.6**; 435/172.3; 435/328; 530/387.3; 530/388.2; 424/133.1; 424/143.1
(58) **Field of Search** 424/133.1, 143.1; 435/328, 69.6, 172.3; 530/387.3, 388.2

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,578,335	3/1986	Urdal et al.	530/351
4,816,397	3/1989	Boss et al. .	
4,816,565	3/1989	Honjo et al.	435/69.1
4,816,567	3/1989	Cabilly et al. .	
4,845,198	7/1989	Urdal et al.	530/387
4,867,973	9/1989	Goers et al. .	
5,198,359	3/1993	Taniguchi et al. .	
5,225,539	7/1993	Winter .	
5,530,101 *	6/1996	Queen et al. .	
5,585,089 *	12/1996	Queen et al. .	
5,693,761 *	12/1997	Queen et al. .	
5,693,762 *	12/1997	Queen et al. .	

FOREIGN PATENT DOCUMENTS

0 120 694	10/1984	(EP) .
2-0120 694	10/1984	(EP) .
1-0125 023	11/1984	(EP) .
0171496	2/1986	(EP) .
0173494	3/1986	(EP) .
0184187	6/1986	(EP) .
0256654	7/1987	(EP) .
0239400	9/1987	(EP) .
1-0239 400	9/1987	(EP) .
2-0239 400	9/1987	(EP) .
0266663	6/1988	(EP) .
1 0318 554	6/1989	(EP) .
0 323 806	7/1989	(EP) .
1-0323 806	7/1989	(EP) .
0 0328 404	8/1989	(EP) .
0 365 209	4/1990	(EP) .
2 0365 209	4/1990	(EP) .
0 365 997	5/1990	(EP) .
1-0368 684	5/1990	(EP) .
2 0365 997	5/1990	(EP) .
0 125 023	6/1991	(EP) .
0456216	10/1991	(EP) .
0460167	12/1991	(EP) .
1-0519 596	12/1992	(EP) .
1-0592 106	4/1994	(EP) .
239400	8/1994	(EP) .
2-0188 941	10/1987	(GB) .
2188941	10/1987	(GB) .
8928874	12/1989	(GB) .
WO 86/05513	9/1986	(WO) .
WO 87/02671	5/1987	(WO) .
WO88/09344	12/1988	(WO) .
WO 89/01783	3/1989	(WO) .
WO89/09622	10/1989	(WO) .
WO 90/07861	7/1990	(WO) .
91/09967	7/1991	(WO) .
WO 91/09966	7/1991	(WO) .
WO 92/11018	7/1992	(WO) .
WO 92/11383	7/1992	(WO) .
WO92/11018	7/1992	(WO) .
WO93/02191	2/1993	(WO) .
WO 93006231	4/1993	(WO) .
WO94/11509	5/1994	(WO) .
WO 96/05229	2/1996	(WO) .

OTHER PUBLICATIONS

George et al Current Methods in Sequence Comparison and Analysis in Macromolecular Sequencing and Synthesis, 127–148, 1988.*

Barton et al Protein Sequencing Alignment and Database Screening Protein Structure Prediction. 31–63, 1996.*

(List continued on next page.)

* cited by examiner

Primary Examiner—Julie Burke
(74) *Attorney, Agent, or Firm*—Townsend and Townsend and Crew LLP

(57) **ABSTRACT**

Novel methods for producing, and compositions of, humanized immunoglobulins having one or more complementarity determining regions (CDR's) and possible additional amino acids from a donor immunoglobulin and a framework region from an accepting human immunoglobulin are provided. Each humanized immunoglobulin chain will usually comprise, in addition to the CDR's, amino acids from the donor immunoglobulin framework that are, e.g., capable of interacting with the CDR's to effect binding affinity, such as one or more amino acids which are immediately adjacent to a CDR in the donor immunoglobulin or those within about about 3 Å as predicted by molecular modeling. The heavy and light chains may each be designed by using any one or all of various position criteria. When combined into an intact antibody, the humanized immunoglobulins of the present invention will be substantially non-immunogenic in humans and retain substantially the same affinity as the donor immunoglobulin to the antigen, such as a protein or other compound containing an epitope.

30 Claims, 55 Drawing Sheets